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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,233	07/11/2005	Peter Wolki	41834002/021125US	4855

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EXAMINER

SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,233

Applicant(s)

WOLKI ET AL

Examiner

Jason L. Savage

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-49 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20-49 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 08 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20041008.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Objections

Claim 44 is objected to because of the following informalities:

Claim 44 is a duplicate of claim 43. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-22, 25-26, 38-44 and 48-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (US 5,024,670).

Smith teaches a composite material comprising a rigid backing support, at least one outer reinforcement material having an open porous structure having a metallic connection to the support and an overlay on the reinforcement containing a polymer which is typically a polyethylene (col. 2, ln. 10-63).

Regarding claim 21, Smith teaches the polyethylene may be ultrahigh-molecular weight polyethylene (col. 2, ln. 40-63).

Regarding claim 22, Smith teaches the overlay fills the openings in the reinforcement (col. 2, ln. 15-20).

Regarding claim 25, Smith teaches the metallic connection may be a sintered connection (col. 3, ln. 22-33).

Regarding claim 26, Smith teaches the support may be formed of titanium (col. 3, In. 22-33).

Regarding claim 38, the claims are drawn to an article, not the method of making. Absent a teaching or showing to the contrary, the article of the prior art Smith would anticipate the final article claimed by Applicant.

Regarding claims 39 and 48-49, Smith teaches the overlay of the composite is a bearing material (col. 2, In. 10-12).

Regarding claims 40-44, the overlay of Smith does not contain any polytetrafluoroethylene or calcium carbonate and thus anticipates the claims.

Claims 21-26, 31-33, 38-39, 42-44 and 48-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Adam et al. (US 5,686,176).

Adam teaches a composite material comprising a steel backing support, at least one outer reinforcement material having an open porous structure and a polymer overlay (col. 3, In. 8-18). Adam further teaches the overlay may contain polyethylene (col. 3, In. 41-59).

Regarding claim 21, Adam teaches that the overlay may contain a variety of materials including polyethylene compounds (col. 1, In. 56-64).

Regarding claim 22, Adam teaches the overlay fills the openings in the reinforcement (Figures 1-2).

Regarding claims 23-24 and 32-33, Adam teaches the reinforcing material may have a thickness of between 50 μm - 1 mm and preferably between 80 - 300 μm which

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anticipates the claimed thickness ranges. Regarding claim 32-33, Adam would anticipate the claimed ranges of between 0.1-1.0 and 0.2-1.0 mm respectively.

Regarding claim 25, Adam teaches the metallic connection may be a sintered connection (col. 2, ln. 38-42).

Regarding claim 26, Adam teaches the support may be formed of steel (col. 3, ln. 8).

Regarding claim 31, Adam teaches the reinforcement may be bronze (col. 3, ln. 8).

Regarding claim 38, the claims are drawn to an article, not the method of making; however, Adam teaches the overlay may be calandered (col. 2, ln. 43-49).

Regarding claims 39 and 48-49, Smith teaches the composite is a bearing material (col. 1, ln. 8-12).

Regarding claims 42-44, the overlay of Adam does not contain any calcium carbonate and thus anticipates the claims

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-24, 27-28 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,024,670).

Smith teaches what is set forth above however it is silent to some of the claim limitations.

Regarding claims 23-24, 27-28 and 32-33 Smith is silent to the thicknesses of the material layers. However, absent a teaching of the criticality or showing of unexpected results, the claimed thicknesses are merely considered design choices which would not provide a patentable distinction over the prior art. *Eskimo Pie Corp. v. Levous et al.*, 3 U.S.P.Q. 23. *In re Rose* 105 U.S.P.Q. 237. *In re Dailey* 149 U.S.P.Q. 47.

Regarding claim 30, Smith is silent the outer reinforcement material being a metal foam; however, Smith teaches forming a porous sintered layer (col. 3, ln. 22-32). It would have been obvious to one of ordinary skill in the art to have employed any conventionally known porous sintered product for the reinforcement material in Smith including a metal foam with a reasonable expectation of success.

Regarding claim 31, although Smith is silent to the use of the claimed materials for the reinforcement material, it would have been obvious to one of ordinary skill in the art to have used any known biocompatible material in the composite of Smith including iron and nickel with a reasonable expectation of success. Absent a teaching of the criticality or showing of unexpected results from using the claimed materials as the reinforcement material, it would not provide a patentable distinction over the prior art.

Claims 29, 34-37, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,024,670) in view of Schroeder (US 5,229,198).

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Smith teaches what is set forth above however it is silent to the composite comprising a metal fabric as the reinforcing material and that the composite comprise an intermediate layer between the support and the reinforcement layer.

Regarding claim 29, Schroeder teaches a composite material comprising a backing support, at least one outer reinforcement metal mesh material having an open structure having a metallic connection to the support and an overlay on reinforcement containing a polymer such as PTFE (col. 2, ln. 3-15). Schroeder further teaches that the metal mesh reinforcement desirably forms a mechanical locking between the reinforcement and the overlay due to the interstices in the wire mesh (col. 2, ln. 3-15).

It would have been obvious to one of ordinary skill in the art to have modified the composite of Smith by following the teaching of Schroeder and used a metal mesh as the reinforcement material in order to form a composite having the overlay mechanically locked to the reinforcing layer thus imparting high strength to the bearing material.

Regarding claims 45 and 47, the composite thus formed would not contain polytetrafluoroethylene or calcium.

Regarding claim 34 – 37 and 46, Smith is silent to an intermediate layer being formed. However, Schroeder teaches that a thin layer of bronze may be formed between the mesh and the overlay and/or between the mesh and the backing in order to provide an increased surface area and the microscopic voids are able to increase the locking of the resin (col. 3, ln. 45-50). It would have been obvious to one of ordinary skill in the art to have formed a thin layer such as the bronze layer of Schroeder in order to increased the locking of the overlay to the composite.

Claims 27-28, 30 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adam et al. (US 5,686,176).

Adam teaches what is set forth above however it is silent to some of the claim limitations.

Regarding claims 27-28 Adam is silent to the thicknesses of the material layers. However, absent a teaching of the criticality or showing of unexpected results, the claimed thicknesses are merely considered design choices which would not provide a patentable distinction over the prior art. *Eskimo Pie Corp. v. Levous et al.*, 3 U.S.P.Q. 23. *In re Rose* 105 U.S.P.Q. 237. *In re Dailey* 149 U.S.P.Q. 47.

Regarding claim 30, Adam is silent the outer reinforcement material being a metal foam; however, Adam teaches forming a porous sintered layer (col. 3, ln. 8-10). It would have been obvious to one of ordinary skill in the art to have employed any conventionally known porous sintered product for the reinforcement material in Adam including a metal foam with a reasonable expectation of success.

Regarding claim 40, Adam teaches the overlay contain 10% PTFE as opposed to the less than (emphasis added) 10% which is claimed (col. 3, ln. 51-59). However, the claimed composite, whose compositions are in such close proportions to those in the prior art that, prima facie one skilled in the art would have expected them to have the same properties, must be considered to have been obvious from known materials, *Titanium Metals Corporation of America V. Banner*, 227 USPQ 773.

Claims 29, 34-37, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adam et al. (US 6,686,176) in view of Schroeder (US 5,229,198).

Adam teaches what is set forth above however it is silent to the composite comprising a metal fabric as the reinforcing material and that the composite comprise an intermediate layer between the support and the reinforcement layer.

Regarding claim 29, Schroeder teaches a composite material comprising a backing support, at least one outer reinforcement metal mesh material having an open structure having a metallic connection to the support and an overlay on reinforcement containing a polymer such as PTFE (col. 2, ln. 3-15). Schroeder further teaches that the metal mesh reinforcement desirably forms a mechanical locking between the reinforcement and the overlay due to the interstices in the wire mesh (col. 2, ln. 3-15).

It would have been obvious to one of ordinary skill in the art to have modified the composite of Adam by following the teaching of Schroeder and used a metal mesh as the reinforcement material in order to form a composite having the overlay mechanically locked to the reinforcing layer thus imparting high strength to the bearing material.

Regarding claims 45 and 47, one skilled in the art would have expected the composite thus formed having a polytetrafluoroethylene content of 10% as opposed to the claimed amount of less than 10% to have the same properties, prima facie and must be considered to have been obvious from known materials, Titanium Metals Corporation of America V. Banner, 227 USPQ 773. The composite thus modified would also still not contain any calcium.

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Regarding claim 34 – 37 and 46, Adam is silent to an intermediate layer being formed. However, Schroeder teaches that a thin layer of bronze may be formed between the mesh and the overlay and/or between the mesh and the backing in order to provide an increased surface area and the microscopic voids are able to increase the locking of the resin (col. 3, ln. 45-50). It would have been obvious to one of ordinary skill in the art to have formed a thin layer such as the bronze layer of Schroeder in order to increased the locking of the overlay to the compost.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

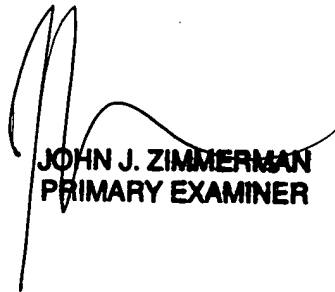
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason Savage
9-30-05



JOHN J. ZIMMERMAN
PRIMARY EXAMINER